



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,348	10/24/2003	Robert B. Rutherford	279170-020054	2714

7590 05/04/2005

Barbara E. Arndt, Ph.D.
JONES DAY
North Point
901 Lakeside Avenue
Cleveland, OH 44114

EXAMINER

PATEL, VINOD D

ART UNIT	PAPER NUMBER
----------	--------------

3742

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/693,348	Applicant(s) RUTHERFORD ET AL.	
	Examiner Vinod D. Patel	Art Unit 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17 and 29-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/24/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED OFFICE ACTION

INTRODUCTION

1. This application/control number 10/693,348 has been examined. This is the first action on the merits of the claimed invention. The application has claims 17, 29-40 pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 17, 29-31 and 36-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Olstowski et al. (US3553834).

Olstowski et al. discloses a resistance heater (column 1, lines 15-23, column 7, line 46) for high voltage applications, comprising: an electrically insulating substrate (column 1, lines 15-23, column 7, line 65-67); in form of a carpet and a second backing added on form of a cushion to cover the graphite layer, a flexible expanded graphite sheet having a thickness of about 1.0 mil equivalent to 0.001 inch (column 2, line 60); a power source in form of A. C. source (column 1, lines 15-23, column 8, line 21); and a connector for supplying power from the power source to the flexible expanded graphite sheet in the form of an electrical contact is made between the graphite layer and electrical source to cause current to flow through the graphite layer thereby heating the carpet by electrical resistance (column 1, lines 15-23, column 8, line 19-21).

With respect to claim 29, Olstowski et al. discloses a voltage between 110-115 volts (Column 8, line 21) for the resistance heater is within the claimed range of 110-480 volts.

With respect to claims 30-31, Olstowski et al. discloses the thickness of flexible expanded graphite sheet is about 1.0 mil equivalent to 0.001 inch (column 2, line 60).

With respect to claim 36, Olstowski et al. discloses an electrical contact is made between the graphite layer and electrical source to cause current to flow through the graphite layer thereby heating the carpet by electrical resistance (column 1, lines 15-23) hence discloses single set of two electrical terminals.

With respect to claim 37, Olstowski et al. discloses a flexible graphite sheet layer (one of at least two sheet layer) applied to carpet (second sheet layer). Flexible graphite sheet is obtained separating a flexible expanded graphite sheet having a first thickness into two or more thickness layers is considered as a product by process claim. Patentability of a product-by-process claim does not depend on its method of production but is based on the product. "If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

With respect to claims 38-40, the method of forming the device is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olstowski et al. (US3553834).

With respect to claims 32-33, Olstowski et al. does not specify the thickness of flexible expanded graphite sheet about 0.01 mils to about 0.1 mils.

Olstowski et al. discloses the thickness of flexible expanded graphite sheet is about a thickness of about 1.0 mil equivalent to 0.001 inch (column 2, line 60) and also discloses that the thickness of the graphite layer to be used can be predetermined to obtain the desired resistance so that the desired amount of heat will be emitted when the electric current is passed through the graphite layer (column 8, lines 15-20).

It would have been obvious to one of ordinary skill in the art to have the thickness of graphite sheet about 0.01 mils to about 0.1 mils to obtained desire amount of heat as taught by Olstowski et al. because the thickness of the graphite layer to be used can be predetermined to obtain the desired resistance so that the desired amount of heat will be emitted when the electric current is passed through the graphite layer (column 8, lines 15-20).

It is well established that the above listed variables are result-effective variables; that is, variables which achieve a recognized result before the determination of their optimum or workable ranges by routine experimentation. In re Antonie, 559 F.2d 618, 620, 195 USPQ 6,8

Art Unit: 3742

(CCPA 1977). General conditions of the claims are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by engineering or routine experimentation. It would have been obvious to one having ordinary skill in the art at the time the invention was to modify the result-effective variables in Olstowski et al. to the values and ranges as claimed by using routine engineering procedure to optimize the operation of the heating device.

With respect to claims 34-35, Olstowski et al. is silent regarding the flexible expanded graphite sheet is uniform or non-uniform, but Olstowski et al. discloses that the thickness of the graphite layer to be used can be predetermined to obtain the desired resistance so that the desired amount of heat will be emitted when the electric current is passed through the graphite layer (column 8, lines 15-20).

It would have been obvious to one of ordinary skill in the art to have the uniform or non-uniform thickness of graphite sheet to obtained desire amount of heat as taught by Olstowski et al. because the thickness of the graphite layer to be used can be predetermined to obtain the desired resistance so that the desired amount of heat will be emitted when the electric current is passed through the graphite layer (column 8, lines 15-20).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinod D. Patel whose telephone number is 571-272-4785. The examiner can normally be reached on 7.30 A.M. TO 4.00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3742

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VP

Vinod Patel

Vinod Patel
Patent Examiner
Art Unit 3742

4/28/05

Robin O. Evans
ROBIN O. EVANS
PRIMARY EXAMINER

4/29/05